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Hurricane Mixer Instruction Manual



Models:
107927
107896 (Shown)
143628
143626

IMS has a policy of constantly developing all equipment and accessories. Therefore, we must reserve the right to make changes to IMS models from time to time. No claims can be made based on the information and illustrations contained in this manual/booklet.



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1 Description of Equipment


The IMS Hurricane Mixer is designed with a direct drive vertical auger which creates a unique blending action to ensure complete, uniform blending. The internal mixing auger can be easily removed for cleaning between materials or color changes. The timer and motor controls are simple and easy to use. Forklift channels allow the mixer to be portable. The bottom discharge slide gate insures that all the material is emptied prior to refilling the mixer.

The following information is specific to the equipment delivered with this manual. Keep this information available for warranty claims and spare parts purchasing.

Company Name:		
Model Numbers:	107927	Hurricane Mixer
	107896	Hurricane Mixer
	143628	Hurricane Mixer
	143626	Hurricane Mixer
Options:	Top Drive, bottom discharge, cover and safety latches.	
CSO Number:		
Manufacture Date:		



2 For Your Safety


-  **Caution:** These accident prevention measures must always be observed when working with the mixer. Please read the entire operating instructions carefully and familiarize yourself with the operation of the unit before using the equipment.
- Do not attempt to install, connect power to, operate or service machine without proper instruction and until you have been thoroughly trained in its use by your employer.
- Do not manually override or electrically by-pass any protective device.
- Do not connect power to or operate machinery or equipment unless all moving parts are covered and all covers, guards, grates, and maintenance panels are in place and securely fastened.
- It is the owner and employer's responsibility to adequately train the employee-operator in the proper and safe use of machinery and equipment. Written safety programs and formal instruction are essential. All new employees must be made aware of company policies and operating rules especially the established safety and health procedures. Refresher training of experienced employees in the potential hazards of the job is important. Up to date training records must be maintained at the job site.
- Special attention must be devoted to outside contractors engaged to enter and perform work on machinery or in the workplace. Special care must be exercised to insure all such personnel are fully informed of the potential hazards and follow plant rules.
- High voltage and rotating parts can cause serious or fatal injury. Only qualified, trained, and experienced personnel must perform installation, operation and maintenance of machinery.
- Make sure that the motor and the frame of each machine that has any electrical connection is effectively grounded in accordance with OSHA safety and health standards, the National Electrical Code and local codes.
- Do not rely on the cover safety switch to stop or cause the mixer to remain stopped when the unit is being filled or serviced
- DO not abuse, overload, mistreat or misuse machine.

2.1 Clothing and Equipment

Appropriate clothing should be worn when working with the equipment. This consists of close-fitting work clothing (overalls), sturdy gloves, protective glasses and safety boots with non-slip soles. This should be considered the minimum requirements. Check with local plant safety guidelines for any additional requirements due to the materials being used or company policy.



2.2 Instructions During Operation

-  **DANGER:** Do not abuse, overload, mistreat or misuse machine or attempt to operate it if it is in need of service, lubrication, maintenance or repair.
- The unit must be checked before each operation to ensure that it is in serviceable condition.
- Isolate power and insure all moving parts come to a complete standstill:
 - Before clearing blockages or eliminating clogging.
 - Before checking, cleaning or performing work on the equipment.
- Do not abuse, overload, mistreat or misuse machine or attempt to operate it if it is in need of service, lubrication, maintenance or repair.
- If the equipment makes an unusual noise or vibrates strongly, turn it off and call for service personnel to inspect and repair.
- Never place any part of your body under or near rotating members or moving parts of machinery or equipment.
- Many machines are installed and wired to start automatically or from remote control locations. Keep away from machinery at all times.
- All protective covers, guards, grates, maintenance panels, switches and warning decals must be kept in place and in good repair. Any machine with damaged, malfunctioning, defective, or missing protective devices must be taken out of service until protective device can be repaired or replaced.
- The operator is responsible for third parties in the working area of the equipment. Never operate while persons, particularly children or animals are nearby. Persons under 16 years of age should not operate the equipment.
- **It is ultimately the operator's responsibility to implement the above listed precautions and insure proper machinery and equipment use, maintenance and lubrication. Keep these instructions and list of warnings with your machine at all times.**
- WORK SAFELY AT ALL TIMES.
- If the mixer is permanently connected to an electrical supply, a lockable electrical disconnect shall be installed in accordance with local electrical and safety regulations to allow safe accessibility to the mixer for cleaning and maintenance.



2.3 Dangers from Electric Current

- High voltage can cause serious or fatal injury.
- Ensure that the motor and the frame of each machine that has any electrical connection are effectively grounded in accordance with OSHA safety and health standards, the National Electric Code and local codes.
- The power supply cable, on/off switch and connection cable are particularly important for the electrical safety of the machine. Damaged cables or connections that do not correspond to local specifications may not be used so operators are not exposed to the danger of an electric shock.
- Check the connection cables regularly for signs of damage, aging or brittleness.
- Do not allow the wash down of electric motors.
- Observe local electrical authority requirements.

3 Installation Instructions

It is recommended that a copy of this manual be attached the machine to keep the appropriate instructional materials where they are needed.

3.1 Safety

- A Padlockable Protective Interlocking Electrical Control Switch will need to be installed in accordance with your local requirements, along with prominently displayed hazard warning and instruction decals to alert personnel to possible operational hazards.
- To promote safe operation moving parts must be protected by guards, covers or grates. A full system cage can be ordered from N.B.E., Inc. as an option. If this option is not purchased or requested it is the responsibility of the equipment user to provide correct and safe protection for the equipment and personnel in accordance with all applicable agencies.

3.2 Preliminary Inspection

A preliminary inspection should be made prior to installing the equipment.


- Remove any plastic, cardboard and / or crating. Inspect equipment for shipping damage and report to carrier. All claims for damages or shortages resulting from shipment must be filed with the carrier before the truck leaves the unloading site.
- Inspect the shipment upon arrival to be sure it is complete. If there are any components or parts missing, call IMS immediately.
- Carefully read through all of the installation manuals for each component of your system prior to installing the machine.



3.3 General Installation

- Installation of this portable unit may require moving some of the components into place with a crane or vehicle equipped with a lifting device. It is the responsibility of the installer to provide experienced personnel qualified for this type of installation.
- Refer to Electrical Specifications and supply the correct power source to the motor.
- Refer to Assembly Drawings for dimensional mounting information.
- Machine must be equipped with a properly functioning Protective Interlocking electrical control Switch (PCS) and a Padlockable Manual Power Lock-out Switch. On-off, interlock and padlock functions of the PCS must be tested and logged daily by supervisory personnel.
- Any device powered by the air pressure must be equipped with a properly functioning Padlockable Manual Pressure Lockout and Internal Pressure Relief Valve (PLV).
- The mixer is tested at the factory and is ready to be placed in operation. It should be positioned on a solid level floor capable of supporting the mixer and material.
- Connect 460 Volt 3 phase power to the mixer using wire sizing correct for motor horsepower and length of run from disconnect, all in accordance with the National Electrical Code (refer to the electrical schematic for sizing).
- Plan your installation to include a site layout, material traffic pattern to and from the system, location of the operator interface, requirements of adjacent machinery, material conveying lines or augers, power and air requirements, and above all safety.
- If the bulk bag conditioner system is placed in a position that exposes it to possible collision with factory vehicles and/or if the operator interface is positioned so the operator is in a vehicle pathway, it is advisable to install a protective guardrail around the exposed areas of the system. It is also advisable to mark the hoist lifting area with local safety approved warnings.
- Check your system layout for components that may need to be placed into position before the bag conditioner is installed. Position the bag conditioner according to the pre-planned system layout. Check the orientation of the operator side with the layout. Anchor the bag conditioner to the foundation (see anchoring instructions below) utilizing all bolt holes provided, if the bag conditioner will be used in the same location for an extended period of time.

3.4 Supporting and Anchoring Instructions

- It is the responsibility of the customer to examine all factors influencing anchoring including but not limited to: the type and strength of the base material, direction of loading, distance between anchors, geological and environmental concerns, vibration, and corrosion.
- It is the responsibility of the customer to provide a suitable foundation and anchoring system for the bulk bag conditioner base frame and all associated options attached to the base frame.
-  **Caution: Failure to provide adequate support may result in equipment damage.**



4 Operating Instructions

4.1 Before Starting

Before starting the equipment, perform the following:

- Carefully inspect all fasteners, bolts and nuts, on both the inside and outside of the machine to make certain that they are tight.
- Carefully check the alignment of all drive components to assure proper operation.
- Check the inside of the equipment and clear out any foreign material or objects.

4.2 Power-up Procedure

1. Verify all guards and doors are closed and in place.
2. Turn on Main Disconnect (by others).
3. Pull the PULL START / PUSH STOP pushbutton located on the control panel to enable the system.

4.3 Operating Procedure

The IMS Hurricane Mixer is designed to blend pallet and granular material batches with a nominal density of 35 pounds per cubic foot. Materials of higher density can be blended as long as the full load amperage of the drive motor is not exceeded. Monitor the motor amperage as the mixer is filled and mark a new maximum fill level when the motor amperage reaches 95% of the rated maximum current (on the motor nameplate).

The mixer pulls material vertically up the center auger tube during operation. Experiment with the sequence of adding material to attain the most thorough blending in the shortest amount of time. This usually means adding multiple ingredients sequentially in small amounts.

The timer is set by turning the dial to the desired mixing time. Pull out the start/stop button to start the mixer, press the button in to stop it. Notice that the mixer covers have a safety switch that will not allow the mixer to run with the either cover open. If a cover is opened when the mixer is running, the mixer motor will stop but the timer will continue to operate. Material is emptied using the manual side gate in the bottom of the mixer.

There is a material deflector skirt attached to the lower auger tube. The location of this tube can be adjusted to promote faster and more thorough mixing. Also, there is a flipper blade on the top of the auger that can be placed in two positions. When the flipper is located as the continuation of auger flights, material will be thrown outward. When the flipper blade is set opposite, material will be turned over. This setting is recommended for dusty materials.



5 Adjustments

5.1 Filling the Mixer

Filling the mixer for maximum performance:

The method used for filling the Hurricane Mixer can greatly affect the mixer efficiency. When the mixer is running, material is lifted vertically within the auger tube. When the material reaches the top of the auger tube, it is dispersed across the top surface area of the mixer. During a mixing cycle, the material is turned over several times within the mixer. The majority of the mixing occurs when dissimilar materials enter the auger tube and are mixed as they are lifted and agitated by the auger. To maximize the mixer efficiency, analyze and test different loading sequences to minimize mixer run time. If the mixer is used to mix a multiple ingredient batch from bagged materials, alternate the loading of the bags of material. One bag of ingredient “A” followed by material “B” and “C” etc. in a rotating sequence. If a batch consists of primarily one material with a small percentage of secondary ingredients, mix time can be reduced by inducing the secondary material gradually during filling. For some materials, a small amount of pre mix material may be useful to reduce the amount of unmixed material in the mixer below the point that the auger contacts the material. Add the pre mixed material first so it fills the bottom of the mixer up to the level of the auger. Save this amount of material from each sequential batch to be used for the next batch.

5.2 Mixing

When the mixer is running, material is lifted vertically within the auger tube. Then the material reaches the top of the auger tube it is dispersed across the top surface area of the mixer. During a mixing cycle the material is turned over several times within the mixer. The majority of the mixing occurs when dissimilar materials enter the auger tube and are mixed as they are filled and agitated by the auger. Set the mixer timer to the desired mix time setting by turning the timer indicator knob to the mix time required. Note this time in a logbook for the batch formula for future reference – also note the material loading method. Typically, consistency in the loading method is the key to minimizing mix time and maintaining acceptable mix results. With the timer set and the mixer cover closed, pull the stop/start button to start the mixer. NOTE: The timer will continue to time out if the mixer cover is opened or the mixer is not started. If the mix cycle is interrupted, note the remaining time on the timer and reset this amount of time when the mix cycle is restarted.



5.3 Adjusting the Material Deflector Skirt

To understand the function of the material deflector skirt (Part 02219801), an understanding of material flow characteristics is required. Without the material deflector skirt, materials within a conical shaped mixer will move down to the auger pick up area in one of the following ways:

Mass Flow: Materials that mass flow within a conical shaped mixer move to the auger pickup area equally. The material near the cone and body side wall and the material near the inner auger tube move together toward the auger pick up. This is required for the mixer to function without unmixed areas or dead spots along the mixer cone and body side wall.

Funnel Flow: Materials that funnel flow within a conical shaped mixer move to the auger pickup area unequally. The material near the inner auger tube moves first toward the auger pick up preventing the material near the mixer cone and body side wall from moving into the auger. This will cause unmixed areas or dead spots along the mixer cone and body side wall.

The function of the material deflector skirt is to force materials that funnel flow to move equally (mass flow) during the mixing process. By restricting the material movement along the inner tube funnel flow materials can be consistently mixed.

The material deflector skirt gap can be adjusted by moving the skirt along the inner auger tube. Free flowing funnel flow materials can use a small skirt gap. Move the skirt up along the inner tube to increase the skirt to cone gap. It is possible to remove the material deflector skirt for materials that mass flow within the mixer.

5.4 Flipper Blade Settings

On top of the auger is a “flipper” blade (Part 00278101) which has two positions. When set as a continuation of the auger flights, material will be thrown outward. When the flipper blade is set opposite, material will be turned over. This second setting is recommended for dusty materials.



6 Specifications

The equipment includes the following features and options:

- Refer to Assembly Drawings for dimensional information including overall heights, width and length.
- Carbon steel mixer construction.
- Carbon steel mixer stand.
- See Section 10 Hurricane Mixer Specifications for system details.

7 Maintenance

7.1 Overview

Considerable care has been employed in the design of this equipment to reduce the required maintenance. The following is a list of required periodical maintenance and safety precautions.



Caution: Before attempting any maintenance or adjustments to this equipment or connected equipment, first **DISCONNECT ALL ELECTRICAL POWER**.

- Discharge any stored energy systems. On equipment with pneumatic systems, disconnect the air source and relieve remaining air pressure.
- Insure all moving parts come to a complete standstill and are in their home positions.
- Thoroughly read this manual before proceeding.
- Follow local and plant safety precautions.
- Do not attempt to work on, clean or service this equipment or open or remove any protective cover, guard, grate or maintenance panel until the **POWER** has been disconnected and **LOCKED OUT**, and the machine has come to a complete stop.
- Drive components must be inspected and adjusted after transportation and periodically as required by operating conditions.
- Keep components clean and foreign objects and materials out of motor enclosures.
- Do not rely on the cover safety switch to stop or cause the mixer to remain topped when the unit is being filled or serviced.




7.2 General Inspection

Periodically perform the following inspections:

- Inspect all electrical conduit and sealtite nuts for loose fittings. Replace all components that are defective.
- Inspect all switch and power cords for abrasion and insulation defects. Replace all components that are defective.
- Inspect all set-screws, keys, bearings, shafts, and motors. Replace all components that are defective.
- Inspect complete machine for loose bolts and nuts. Tighten as required. Replace any defective fasteners with an identical size and grade fastener.
- Inspect and repair any finish defects to prevent rust and corrosion.

7.3 Cleaning

-  **CAUTION:** Before servicing the mixer, disconnect the electrical power or lock out the power disconnect.
- Do not use cleaning agents, detergents, solvents, or water if the cleaning agent will react with the materials being mixed.
- Do not use cleaning agents that will damage the mixer components, paint, or electrical cords.
- Do not use liquid cleaning agents on or near any electrical components.
- If liquid cleaning agents are used on the auger, inner tube, mixer body or slide gate, completely dry the parts immediately to prevent rusting of the components.
- Removing the auger and inner tube:
 - Lift and secure both of the mixer covers.
 - Close the slide gate on the bottom of the mixer to prevent the auger from falling through.
 - Remove the snap pin on the upper end of the auger and allow the auger to slide down and rest on the mixer bottom.
 - Lift off the flipper blade.
 - The auger and inner tube can now be lifted out. Note that on one end of the inner tube support arms the dowel pin is longer than the other. It is easier to lift and remove the inner tube and support arm assembly from the short pin side first. Lift the tube assembly and auger out of the mixer. Clean the mixer body, auger, auger tube and slide gate as necessary and reassemble in reverse order.



7.4 General Lubrication

The gear reducer is filled with lubricant at the factory to operate between 60 and 165 degrees F ambient temperature. The reducer oil should be changed after the first 100 hours of operation. Drain the oil and flush the reducer with a light SAE #10 for three minutes of operation. Then drain and refill with an SAE 90 or higher viscosity oil such as Amoco Worm Gear Oil. Thereafter, the oil should be changed every six months or 2500 hours of operation, whichever occurs first.

7.5 M-56 Speed Reducer

The M-56 Speed Reducer is a Parallel shaft, two stage spur gear unit with a cast iron housing and back plate. It has a machined aluminum adapter flange for face-mounting on a 56-C frame motor. All gears and pinions are hardened alloy steel which maintain quiet operation and allow increased load capacity. This unit is designed with a stress proof output shaft to take thrust in either direction. Recommended lubrication: 1 pint AGMA No. 4 or Multi-purpose SAE No. 90. It is recommended that gear box lubrication is changed after the first 24 hours of run time, and then every 150 hours of run time. Disconnect the electrical power supply from the mixer before doing any maintenance. Unbolt the gear box from the main beam. Remove one of the ¼ NPT pipe plugs and drain the old lubricant in to a container. Reinstall the drain plug with Teflon thread sealant tape and fill the gear box through the air vent pipe with the correct quantity of gear lubricant and reinstall the reducer. Refer to the Toledo gearmotor company M56 speed reducer leaflet for reducer replacement part numbers and information.

7.6 Auger Wear Block Adjustment

Located at the pick up end of the mixing auger are three adjustable wear blocks. The wear blocks keep the auger from contacting the inner tube during operation of the mixer and will require periodic adjustment or replacement. The three blocks should be adjusted equally so that the auger is centered in the inner tube and the auger turns freely. Approximately 1/32" of clearance is acceptable. The blocks can be turned end for end or replaced when they can no longer be adjusted to the proper clearance.



8 Electrical Control Components and Functions

8.1 Timer

The batch timer control is a spring wound mechanism timing device. The timer consists of two internal parts: the timing / spring mechanism and an on – off electrical switch. The mechanical timing mechanism simply controls the duration that the electrical switch will pass current.

8.2 Proximity Switch

The proximity switch is attached to one cover of the mixer and a metal switch trigger is attached to the opposite cover. When the covers are closed, the switch and trigger are close together causing the switch to engage. When the switch is engaged, the mixer controls can be enabled. The mixer can then run a mixing operation.

8.3 Push Button

The push button is a simple on / off switch. Pulling the button allows current to pass. Pushing the button stops the electrical current.

8.4 Motor Overload

The motor overload is a protective device. A motor overload consists of two basic elements: an on / off switch and a heating element. Electrical current required to power the Hurricane Mixer drive motor passes through the heating element. If the drive motor is overloaded and consumes more electrical current than normal, the heating element becomes too hot it changes shape allowing a spring tensioned switch to snap open. When the switch is open or off, electrical current cannot pass through the overload switch and to the contactor causing the motor to stop. After the motor has stopped and the heating element has cooled, the overload can be reset by pressing the reset bar located on the overload. Having elements are sized in relationship to the motor current requirements – do not install a higher current heater than is specified.

8.5 Contactor

The contactor consists of two basic elements, a high capacity on / off switch and a magnetic coil. When electrical current is allowed to pass through the contactor coil, the coil becomes an attracting magnet. The force of the magnet closes the high capacity on / off switch allowing current to pass to the mixer drive motor. A contactor is required because it allows the electrical system to stop the mixer motor even when the push button is in the on position. The contactor magnetic coil is controlled by the motor overload, the mixer timer, the proximity switch and the push button. All four of these components need to pass electrical current to activate the magnetic contactor coil.



9 Recommended Spare Parts

Part Number	Qty	Description
HSICH110	2	Decal, Maximum Material Level
HSWCS131	2	Decal, Dangerous Auger 6 x 6
HSWSV009	2	Decal, Moving Parts
HSWSV041	2	Decal, Auger Moving Parts
HSICH102	2	Decal, Company Loge
00060500PC	1	Slide Gate Chain And Pin Assembly
00274700PC	2	Slide Gate Retainer Angle
00274900PC	2	Slide Gate Plastic Runner
00275700PC	2	Angle Bracket, Inner Tube
00276000PC	3	Auger Wear Block Set Of 3
00276600PC	1	Auger Drive Shaft
00278101PC	1	Flipper Blade
00590900PC	1	Slide Gate Blade
00684001PC	1	Cover, Switch Trigger Side
00684002PC	1	Cover, Switch Bracket Side
00758101PC	1	Proximity Switch Bracket
00758102PC	1	Proximity Switch Trigger
00777400PC	1	Mixer Beam Weldment
02219801PC	1	Material Deflector Skirt
02219803PC	1	Material Deflector Clamp

02220601PC	1	Body Weldment 26-301-55-CS
02220621PC	1	Body Weldment 26-201-55-CS
02220631PC	1	Body Weldment 26-101-55-CS
02220641PC	1	Body Weldment 26-051-55-CS
02220651PC	1	Body Weldment 26-301-60-CS
02220661PC	1	Body Weldment 26-201-60-CS
02220671PC	1	Body Weldment 26-101-60-CS
02220671PC	1	Body Weldment 26-051-60-CS

00306304PC	1	Auger Weldment 26-301-55-CS
00306304PC	1	Auger Weldment 26-301-60-CS
00306303PC	1	Auger Weldment 26-201-55-CS
00306303PC	1	Auger Weldment 26-201-60-CS
00306302PC	1	Auger Weldment 26-101-55-CS
00306302PC	1	Auger Weldment 26-101-60-CS
00306301PC	1	Auger Weldment 26-051-55-CS
00306305PC	1	Auger Weldment 26-051-60-CS



Part Number	Qty	Description
00278801PC	1	Auger-Tube 26-25-051-55-CS
00278802PC	1	Auger-Tube 26-25-101-55-CS
00278803PC	1	Auger-Tube 26-25-201-55-CS
00278804PC	1	Auger-Tube 26-25-301-55-CS

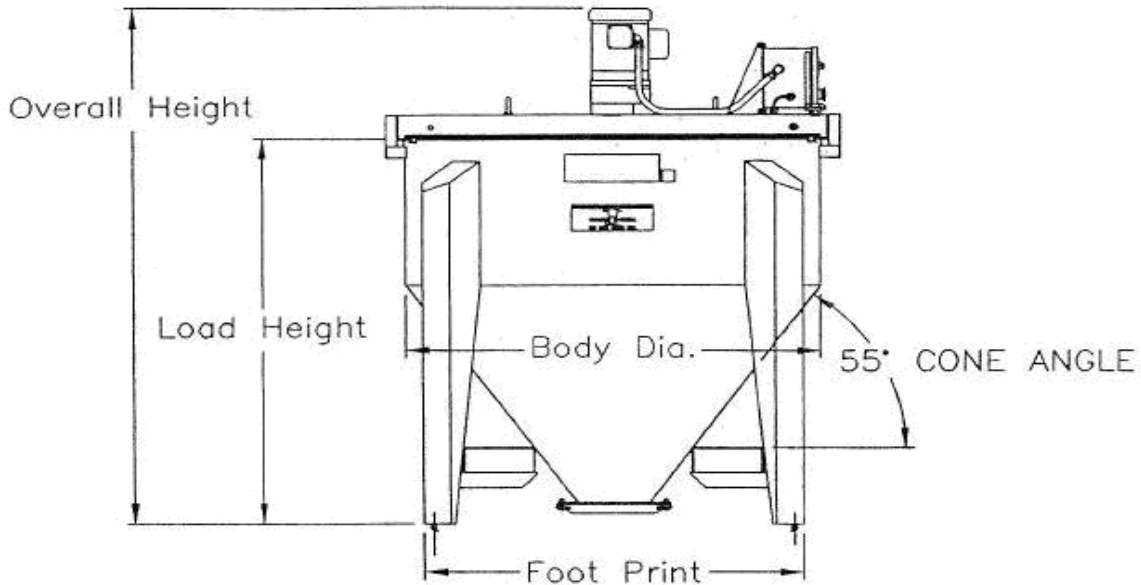
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02220102PC	1	Auger-Tube 26-25-101-60-CS
02220103PC	1	Auger-Tube 26-25-201-60-CS
02220104PC	1	Auger-Tube 26-25-301-60-CS

For current pricing and delivery call IMS parts division at (888) 467-9001.



10 Hurricane Mixer Specifications

10.1 Hurricane Mixer (55° Cone Angle)

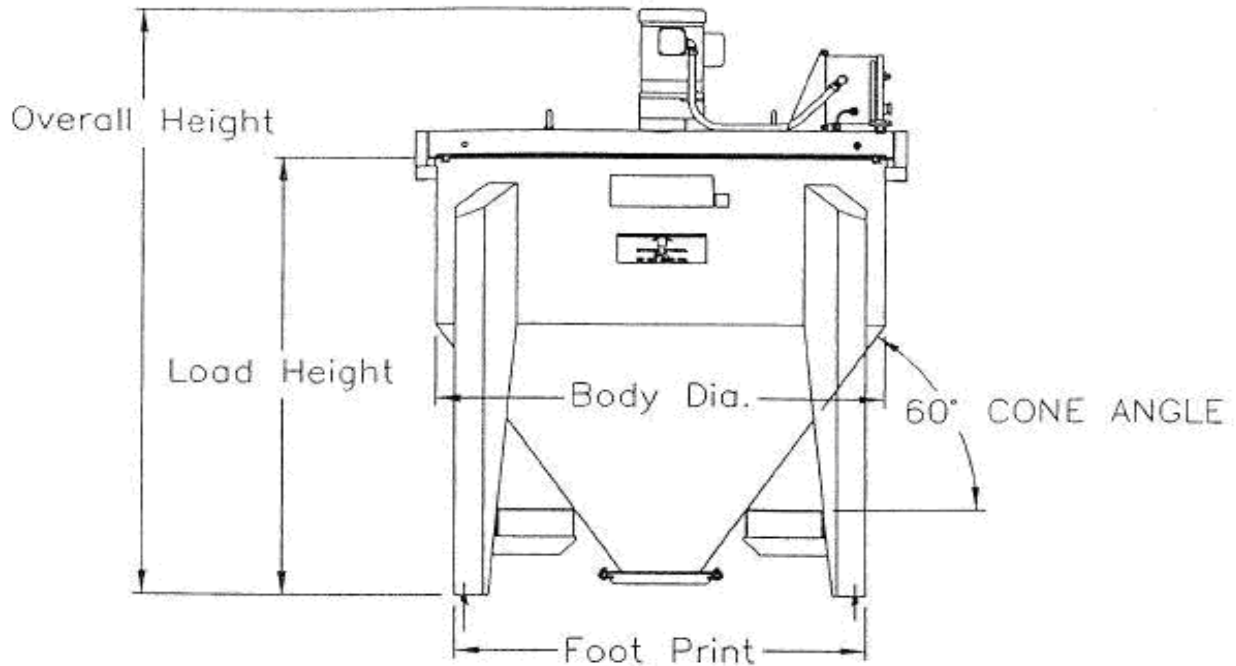


Specifications
Hurricane Mixer (55° Cone Angle)

	107927	107896	143628	143626
Capacity	9.0 Cu. Ft.	22.7 Cu. Ft.	30.0 Cu. Ft.	42.5 Cu. Ft.
Motor Data				
Horsepower	1-1/2 HP	1-1/2 HP	1-1/2 HP	1-1/2 HP
Motor RPM	1750	1750	1750	1750
Voltage	115 V	115 V	115 V	115 V
Phase	Single	Single	Single	Single
Frequency	60 Hz	60 Hz	60 Hz	60 Hz
Motor Type	TEFC	TEFC	TEFC	TEFC
Drive Reducer				
Ratio	7.63 : 1	7.63 : 1	7.63 : 1	7.63 : 1
Auger Speed	226 RPM	226 RPM	226 RPM	226 RPM
Torque	209 in lbs.	209 in lbs.	209 in lbs.	278 in lbs.
Dimensions				
Foot Print	44 x 44	44 x 44	44 x 44	44 x 44
Overall Height	55.00"	69.00"	76.00"	88.00"
Load Height	37.50"	51.00"	58.00"	70.00"
Body Dia.	48.00" Dia.	48.00" Dia.	48.00" Dia.	48.00" Dia.
Weight	420 lbs.	450 lbs.	480 lbs.	480 lbs.
Slide Gate Dia.	8.00" Dia.	8.00" Dia.	8.00" Dia.	8.00" Dia.



10.2 Hurricane Mixer (60° Cone Angle)

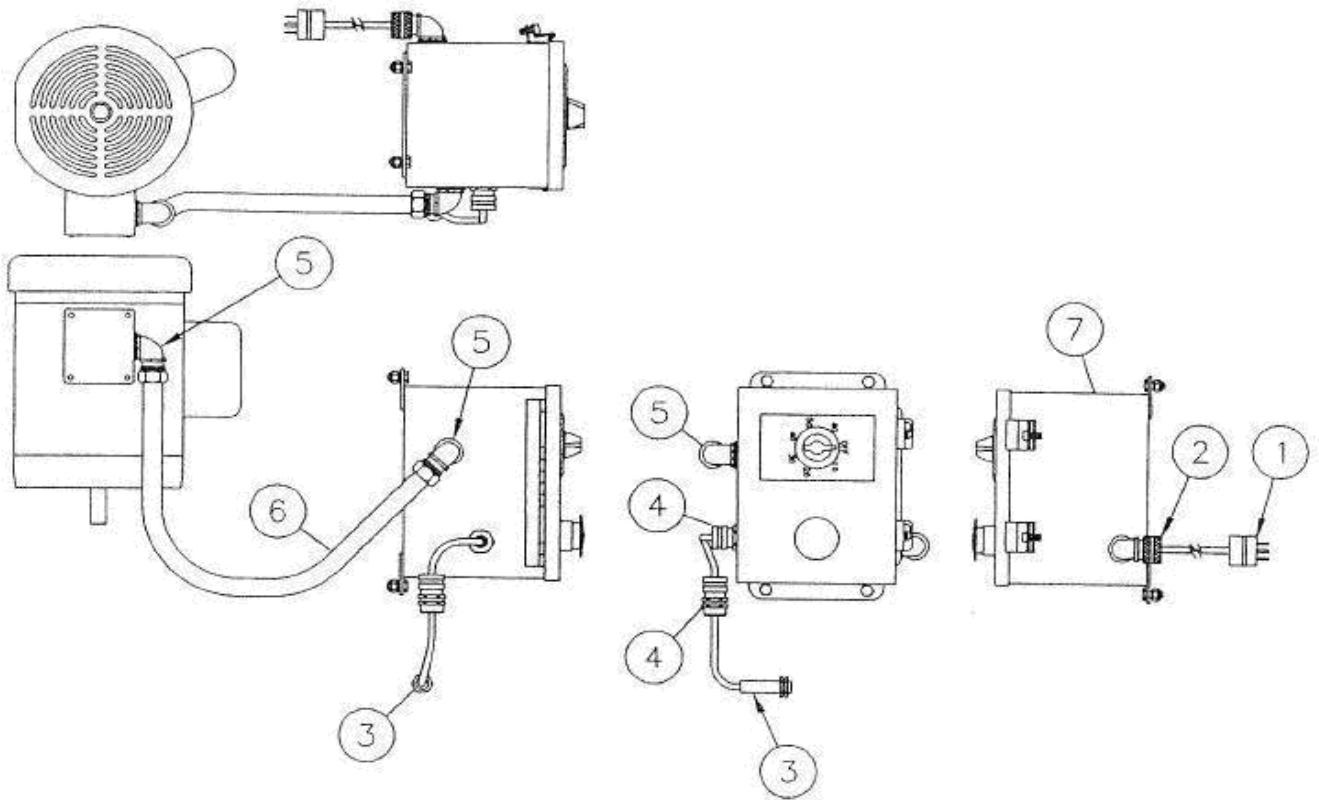


Specifications
Hurricane Mixer (60° Cone Angle)

	107927	107896	143628	143626
Capacity	11.1 Cu. Ft.	19.3 Cu. Ft.	26.6 Cu. Ft.	39.0 Cu. Ft.
Motor Data				
Horsepower	1-1/2 HP	1-1/2 HP	1-1/2 HP	1-1/2 HP
Motor RPM	1750	1750	1750	1750
Voltage	115 V	115 V	115 V	115 V
Phase	Single	Single	Single	Single
Frequency	60 Hz	60 Hz	60 Hz	60 Hz
Motor Type	TEFC	TEFC	TEFC	TEFC
Drive Reducer				
Ratio	7.63 : 1	7.63 : 1	7.63 : 1	7.63 : 1
Auger Speed	226 RPM	226 RPM	226 RPM	226 RPM
Torque	209 in lbs.	209 in lbs.	209 in lbs.	278 in lbs.
Dimensions				
Foot Print	44 x 44	44 x 44	44 x 44	44 x 44
Overall Height	61.00"	69.00"	76.00"	88.00"
Load Height	43.00"	51.00"	58.00"	70.00"
Body Dia.	48.00" Dia.	48.00" Dia.	48.00" Dia.	48.00" Dia.
Weight	420 lbs.	450 lbs.	480 lbs.	480 lbs.
Slide Gate Dia.	8.00" Dia.	8.00" Dia.	8.00" Dia.	8.00" Dia.



10.3 Electrical Hardware Parts Identification



Hurricane Mixer 26-051 / 301
Electrical Hardware Parts Identification

ITEM	QTY	PART	DESCRIPTION
1	1	REF	Cord And Plug
2	1	92017056	Cord Grip; NHC-1023 .375-.500 Hubbel
3	1	REF	Proximity Switch
4	2	92017014	Cord Grip; SHC-1022 .25-.375 Hubbel
5	2	92008093	Fitting; K0389 90° 3/8" ETP
6	2	92009001	Sealtite, 3/8" Type EF
7	1	REF	Enclosure
8	1	REF	Back Panel



10.4 Electrical Parts Identification

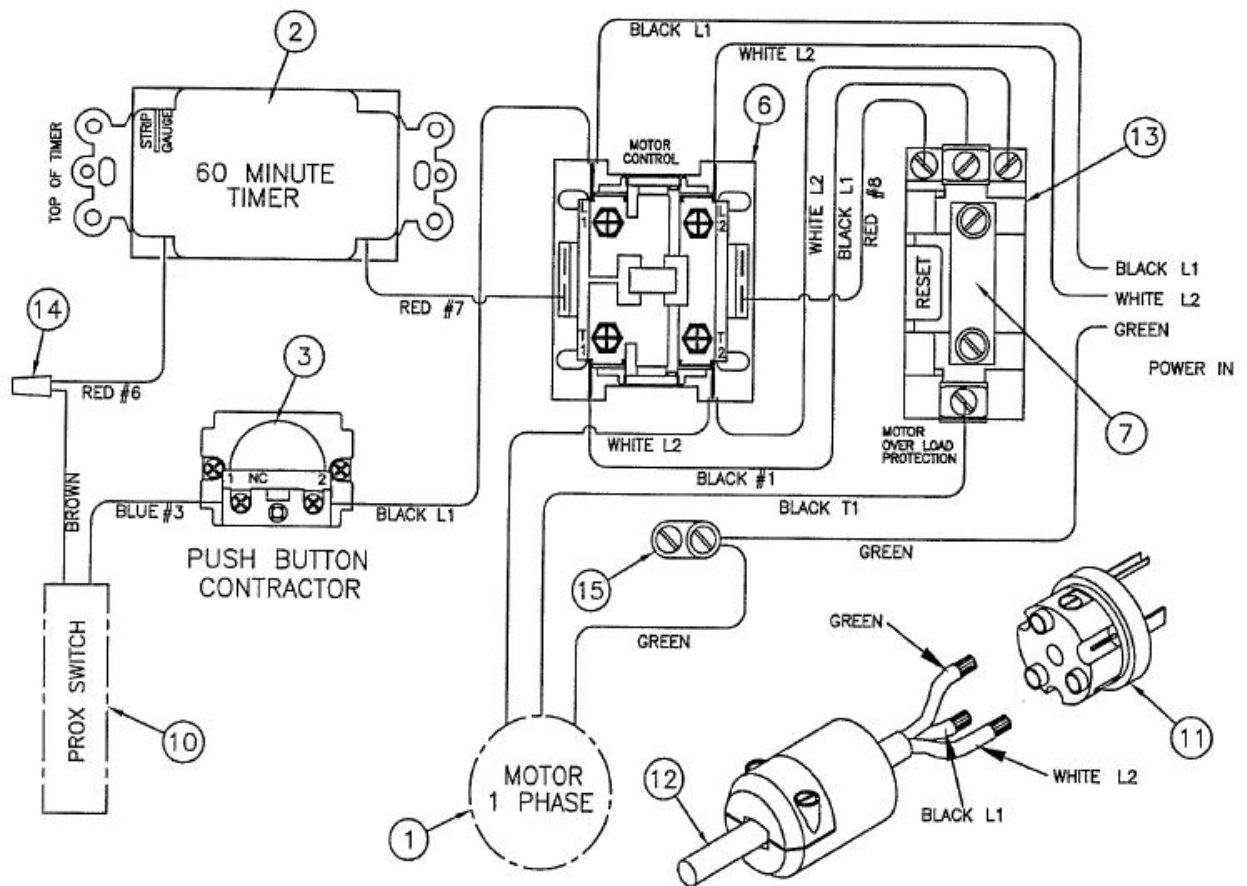
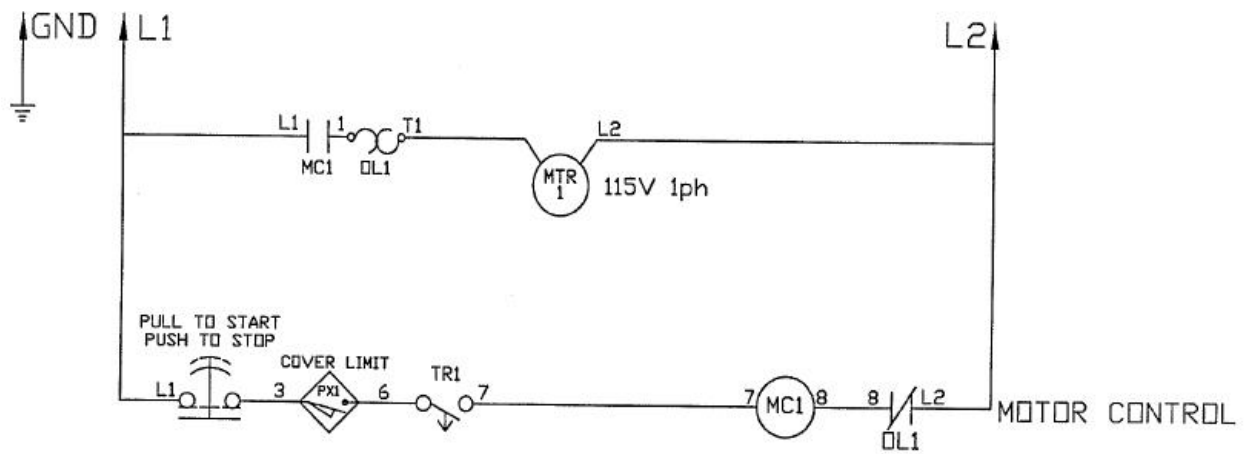
Hurricane Mixer 26-051 / 301 Electrical Parts Identification

Item	Part Number	Qty	Description
1A	92004257	1	Motor; 1.5 HP 1 Phase 56C 1750
1B	92004257	1	Motor; 1.5 HP 1 Phase 56C 1750
2	92011001	1	Timer; 2E270 Dayton 60-Minute
3	92012292	1	Button, Push-Pull; 800EM-MT4 AB
4	92018012	1	Block, Contact; W/Base ZB2-BZ102
5	92013178	1	Legend, Engraved; Pull/Push
6	92028234	1	Contact; 400-DP25ND1
7A	92007074	1	Heater; W59
7B	92007074	1	Heater; W59
8	92014055	1	Encl; A-8066CH 8 x 6 x 6 Hoffman
9	92014026	1	Panel, Back; A-8P6 Hoffman
10	92001171	1	Switch, Limit; 802B-CSABXSXC3 A-B
11	92017009	1	Plug; 5266C Male Dead Front Hubbel
12	92022017	6	Cord; 12/3 Type SJO Black
13	92028035	1	Relay, Overload; 592-BOV4 AB
14	92017080	1	Wire Nut; Orange
15	92017025	1	Ground Lug; L70
16	92023015	6	Wire, Black; 12 Ga.
17	92023001	6	Wire, Red; 14 Ga.
18	92023052	6	Wire, White; 12 Ga.
19	92023034	6	Wire, Green; 12 Ga.
20	92017106	6	Wire Term., Fem. Spade; DNF10-250FI-L
21	92017159	2	Wire Terminal, Fork; PN14-8F-C

See following page for Electrical Diagram.



10.5 Electrical Parts Identification Schematic





10.6 Parts Identification

Item	Part Number	Qty	Description
1	94029011	2	Rubber Stop: TC-220208 Destaco
2	94029028	2	Latch; #37-10-086-10 Southco
3	91003006	1	Reducer; M56-AN 7.63:1 Toledo
4	94048001	1	Snap Pin; 5/16 X 2-1/2 98416A01
5	X	1	See Electrical Parts Identification
6	00777400	1	Weldment; 26-051/301 Beam
7	00275700	2	Angle Bracket; Inner Tube Support
8	00276600	1	Auger Drive Shaft
9	00278101	1	Weldment; Material Flipper Blade
10	00276000	3	UHMW Auger Wear Block
11	02219801	1	Weldment; Material Deflector Skirt
12	X	1	See Auger Identification Chart
13	X	1	See Auger Inner Tube Identification Chart
14	00274700	2	Slide Gate Retainer Angle
15	00590900	1	Slide Gate Blade "Plated"
16	00274900	2	Slide Gate UHMW Runner
17	00060500	1	Slide Gate Chain & Pin Assembly
18	00758101	1	Bracket; Prox Switch
19	00758102	1	Trigger; Prox Switch
20	00684001	1	Cover, Weld't; Switch Trigger Side
21	00684002	1	Cover, Weld't; Switch Bracket Side
22	X	1	See Body Weldment Identification Chart
23	94045002	2	Eye Bolt 1/2-13 x 1/1/2 Cast
24	02219803	1	Material Deflector Clamp
25	94031055	1	Roll Pin, 3/8 Dia. X 2 Long
26	94051004	2	Set Screw; 5/16-18 x 5/8 Long
27	HSICH110	2	Decal, Maximum Material Level
28	HSWCS131	2	Decal, Dangerous Auger, 6 x 6
29	HSWSV009	2	Decal, Moving Parts, HSWSV009
30	HSWSV041	2	Decal, Auger Moving Parts, HSWSV041
31	HSICH102	2	Decal, Company Logo
32	94056034	1	Decal, Made in USA.



10.7 Body Weldment Identification Chart

Item 22 - Body Weldment Identification Chart			
Item	Part Number	Qty	Description
22	02220601	1	Body Weldment 26-301-55-CS
22	02220621	1	Body Weldment 26-201-55-CS
22	02220631	1	Body Weldment 26-101-55-CS
22	02220641	1	Body Weldment 26-051-55-CS
22	02220651	1	Body Weldment 26-301-60-CS
22	02220661	1	Body Weldment 26-201-60-CS
22	02220671	1	Body Weldment 26-101-60-CS
22	02220681	1	Body Weldment 26-051-60-CS

10.8 Auger Inner Tube Identification Chart

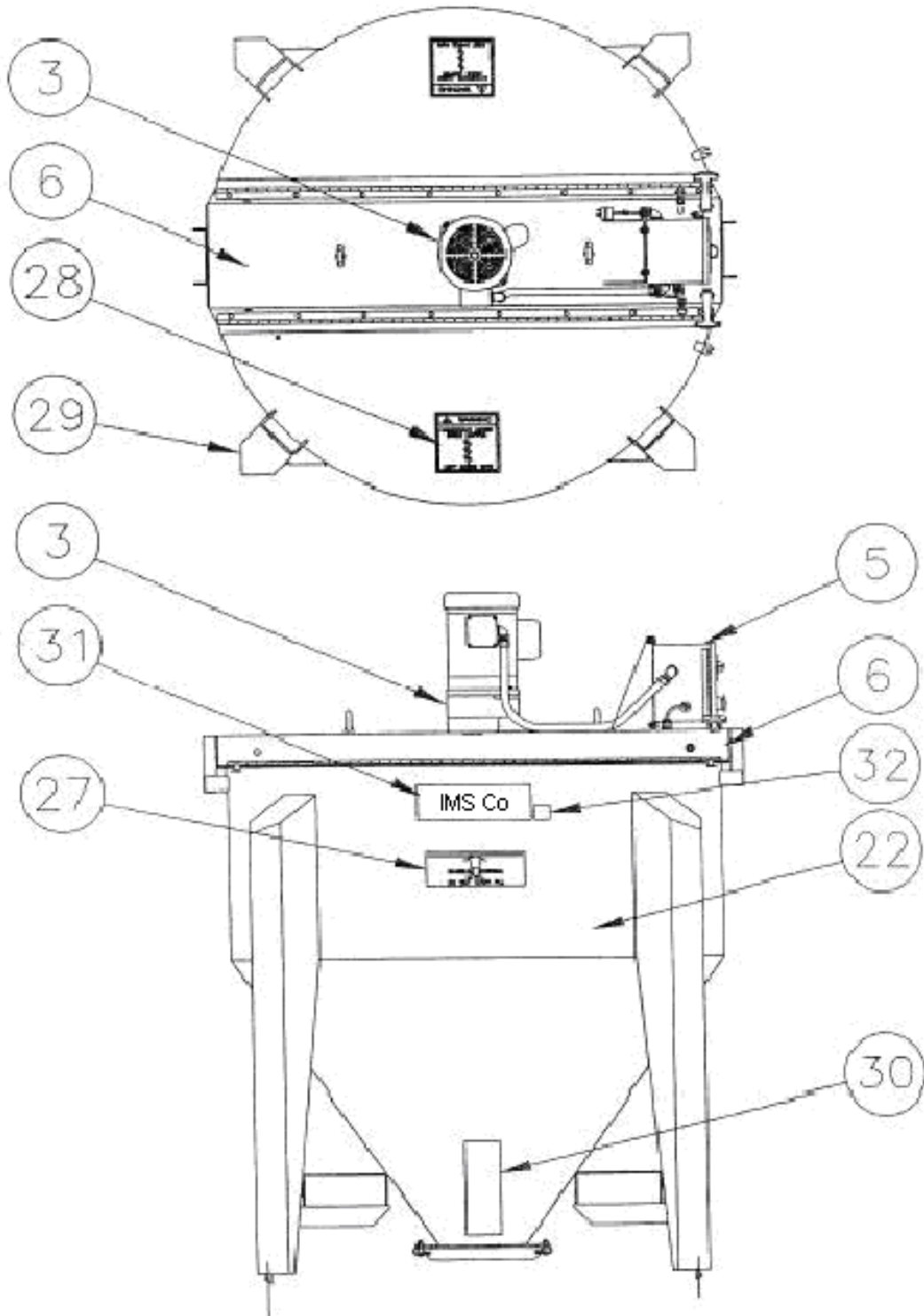
Item 13 – Auger Inner Tube Identification Chart			
Item	Part Number	Qty	Description
13	00278801	1	Auger Inner Tube 26-051-55-CS
13	00278802	1	Auger Inner Tube 26-101-55-CS
13	00278803	1	Auger Inner Tube 26-201-55-CS
13	00278804	1	Auger Inner Tube 26-301-55-CS
13	02220101	1	Auger Inner Tube 26-051-60-CS
13	02220102	1	Auger Inner Tube 26-101-60-CS
13	02220103	1	Auger Inner Tube 26-201-60-CS
13	02220104	1	Auger Inner Tube 26-301-60-CS

10.9 Auger Identification Chart

Item 12 - Auger Identification Chart			
Item	Part Number	Qty	Description
12	00306301	1	Auger Weldment 26-051-55-CS
12	00306302	1	Auger Weldment 26-101-55/60-CS
12	00306303	1	Auger Weldment 26-201-55/60-CS
12	00306304	1	Auger Weldment 26-301-55/60-CS
12	00306305	1	Auger Weldment 26-051-60-CS



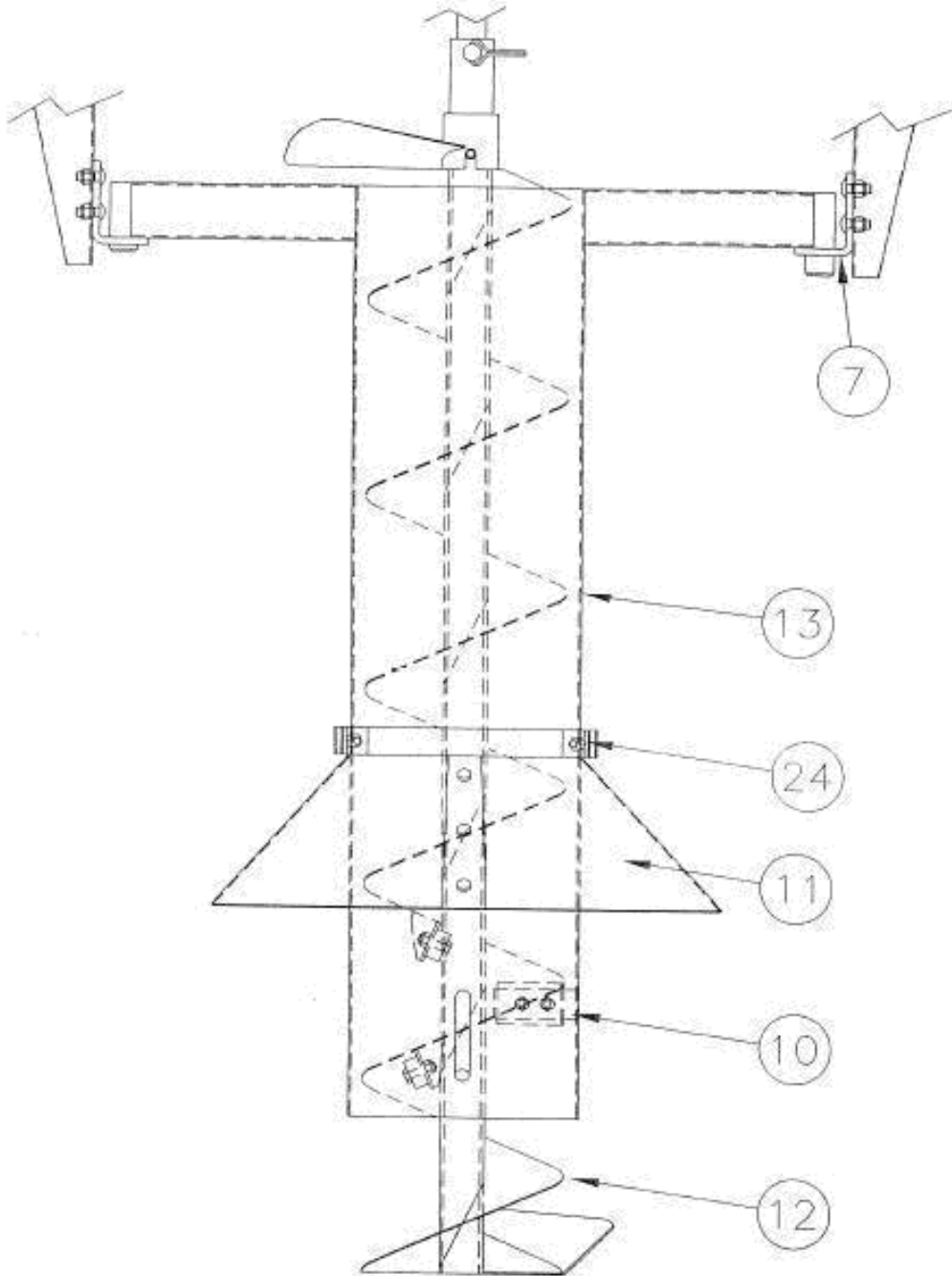
10.10 Hurricane Mixer Body Parts Identification





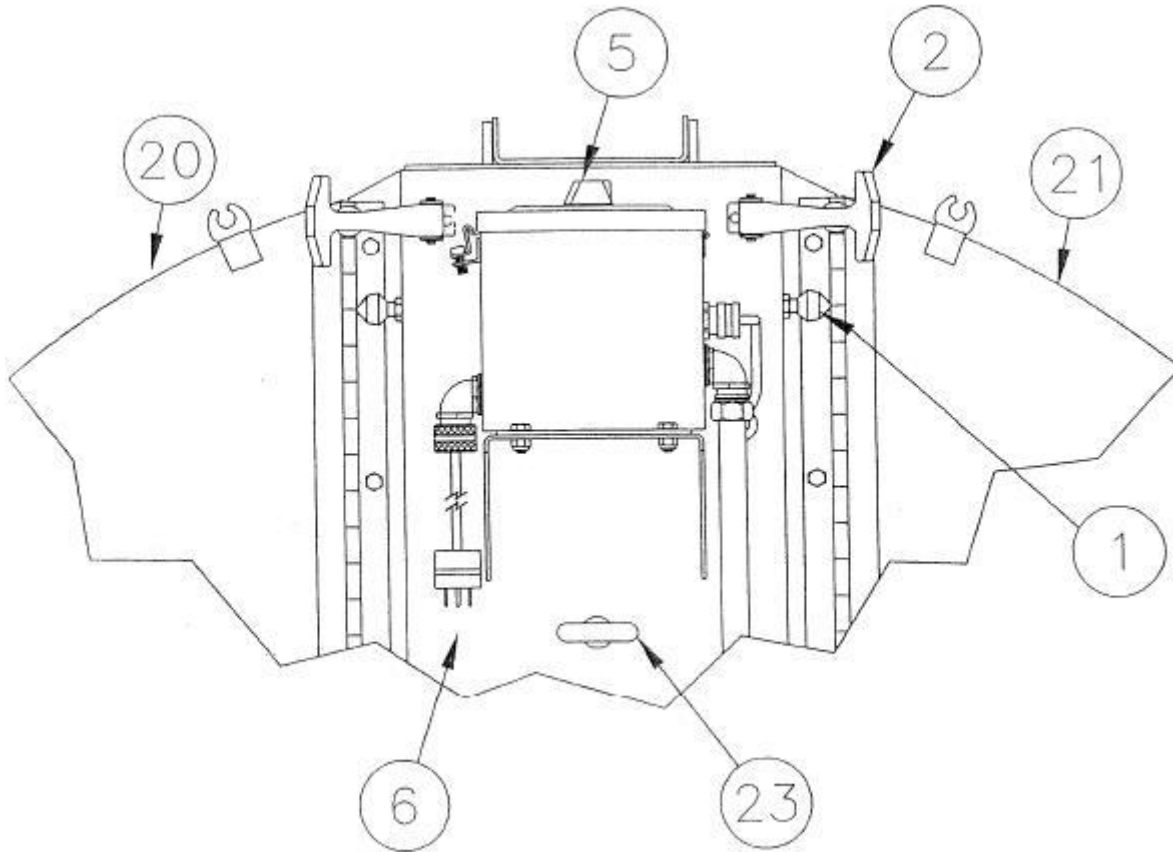


10.11 Auger / Inner Tube Parts Identification





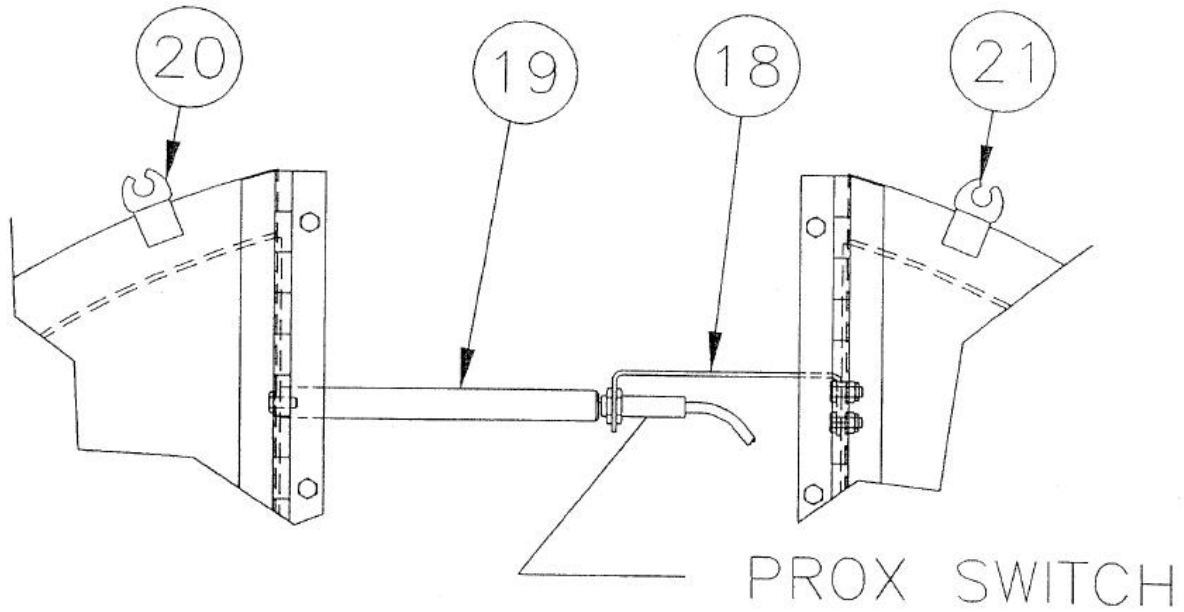
10.12 Electrical / Beam / Cover Parts Identification



**ELECTRICAL / BEAM / COVER
PARTS IDENTIFICATION**

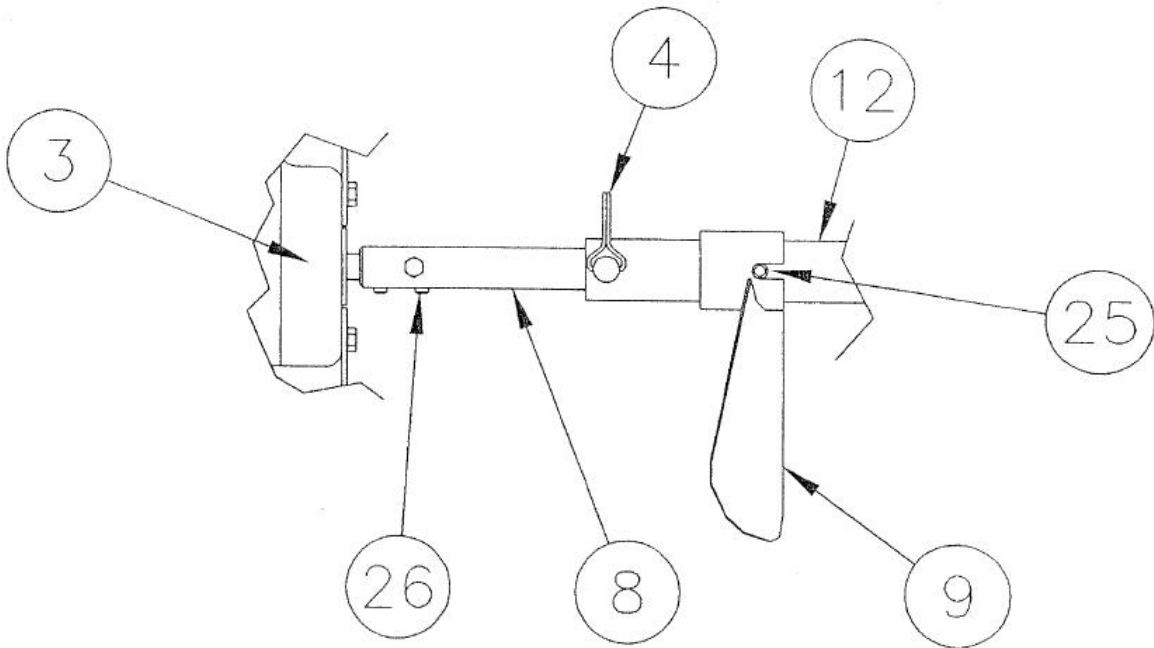


10.13 Prox. Switch / Cover Parts Identification



**PROX SWITCH / COVER
PARTS IDENTIFICATION**

10.14 Drive Shaft Connection Parts Identification

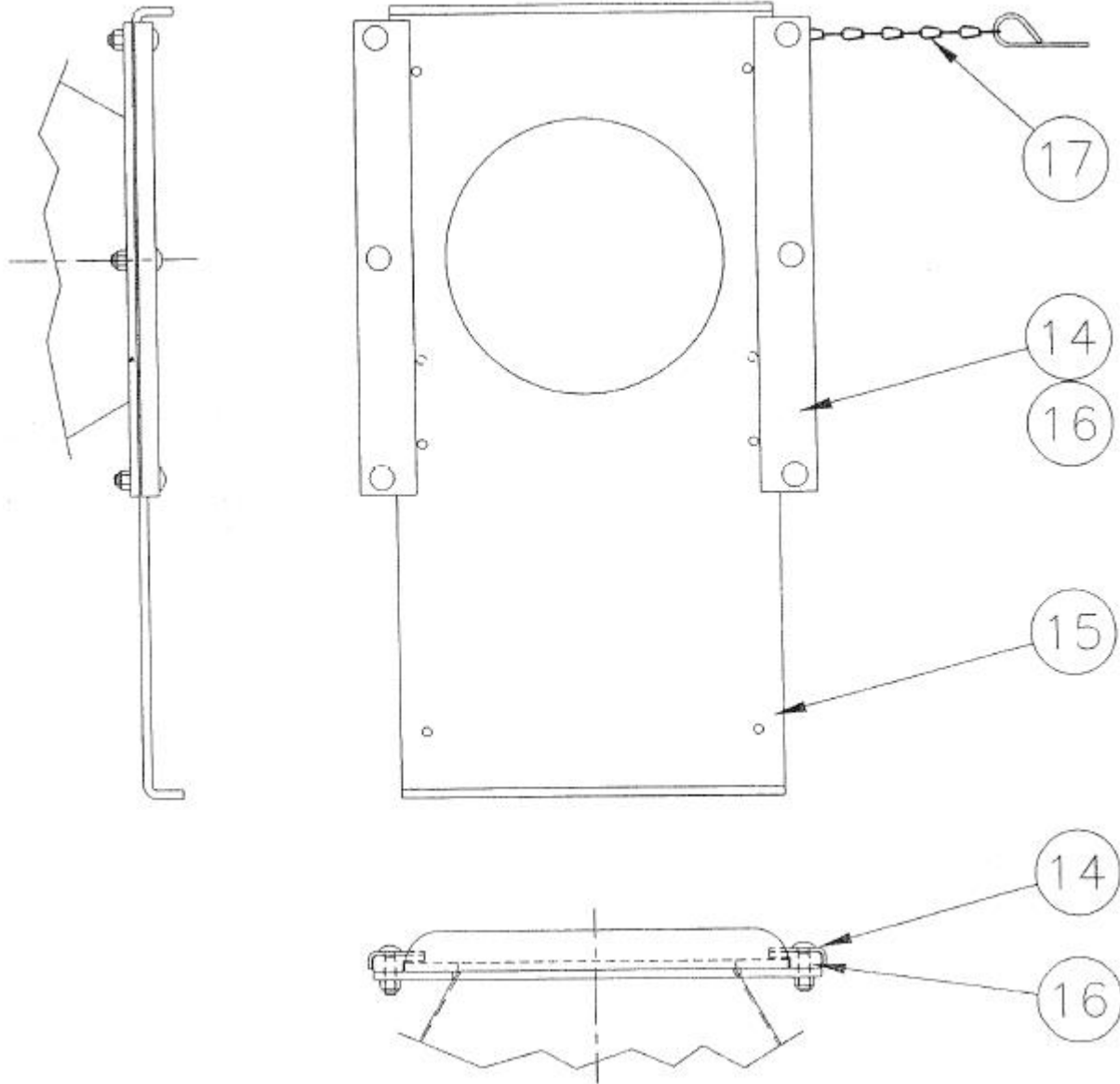


**DRIVE SHAFT CONNECTION
PARTS IDENTIFICATION**



10.15 Slide Gate Parts Identification

SLIDE GATE PARTS IDENTIFICATION





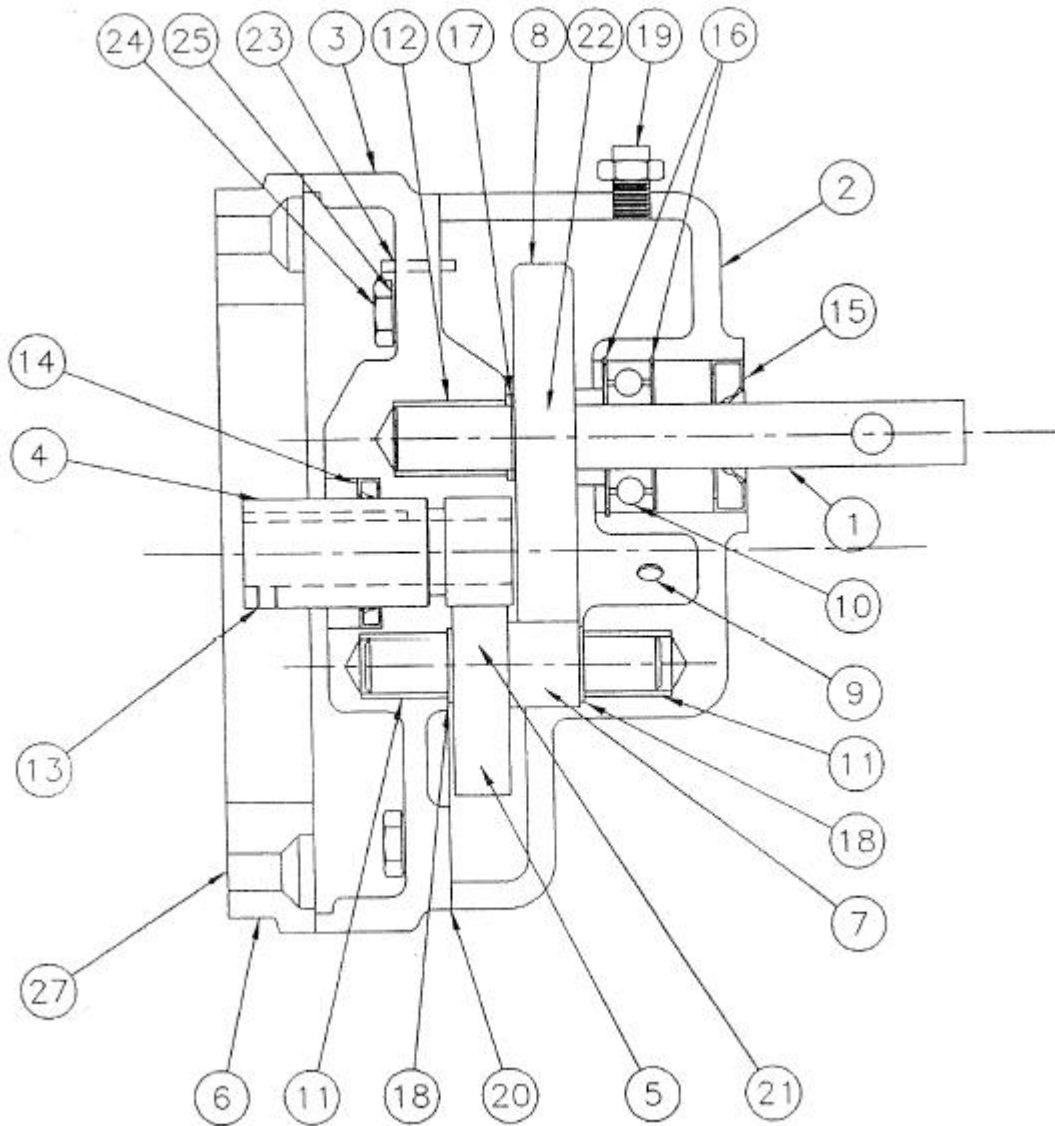
10.16 M56-AN Gear Reducer Parts

ITEM	Part Number	Qty	Description
1	M16-1-N	1	Shaft, Output
2	M16-5	1	Gear, Housing
3	M16-6	1	Backplate
4	1614-6-S	1	Motor Shaft Sleeve and Pinion
5	1638-5	1	Gear, 1st Stage
6	M16-7	1	Adapter, 56C Motor
7	1616-5	1	Pinion and Shaft, 2nd Stage
8	1645-6	1	Gear Output
9		1	1/4 NPT Pipe Plug
10	No. 202-10	1	Ball Bearing, Output Shaft
11	M16-9	2	Journal Bearing, 2nd Stage Pinion Shaft
12	M16-10	1	Journal Bearing, Output Shaft
13		1	1/4-28 x 1/4 Nylock Set Screw
14	No. 10515	1	Oil Seal, Input Sleeve
15	No. 6372	1	Oil Seal, Output Shaft
16	No. 3000-137	2	Retaining Ring
17	As Req'd		Spacer, 1.025 OD x 5-1/28 ID x 0.015
18	As Req'd		Spacer, 0.900 OD x 9/16 ID x 0.015
19		1	Vent Plug
20	M16-170	1	Gasket
21	No. 3000-137	1	Woodruff Key (1/2 Dia. X 1/8)
22	No. 61	1	Woodruff Key (5/8 Dia. X 3/16)
23		2	Dowel Pin, 1/8 Dia. X 9/16
24		5	5/16 x 7/8 Hex Head Cap Screw
25		5	5/16 Lock Washer
26		4	3/8-16 x 1 Flat Head Adapter / Backplate
27		2	5/16-18 x 1-1/4 Hex Head Cap Screw
28		2	5/16 Flat Washer
29		1	3/16 x 3/16 x 3/4 Motor Shaft Key

Complete Gear Reducer IMS Part # 91003006



10.17 M56-AN Gear Reducer Diagram





11 Warranty

IMS (Seller) warrants products manufactured by it and supplied hereunder to be free of defects in materials and workmanship under normal use and proper maintenance for a period of one (1) year from the date of shipment. If within such period, any such products shall be proved to Seller's sole discretion to be defective, such products shall be at Seller's option repaired or replaced. Seller shall be responsible for labor charges in connection with repair or replacement for a period of ninety (90) days from date of shipment, but only for repair or replacement within the continental United States and Canada. All other labor charges shall be billed to Buyer at Seller's then prevailing rates, including travel and lodging expenses. Seller's obligation and Buyer's exclusive remedy hereunder shall be limited to such repair and replacement and shall be conditioned upon Seller receiving written notice of any alleged defect no later than ten (10) days after its discovery within the warranty period. At Seller's option, the Seller may require return of such products to Seller when such return is feasible. Seller reserves the right to satisfy all of its warranty obligations by reimbursing Buyer for all amounts Buyer has paid to Seller for such product upon which Buyer shall immediately return the product(s) to Seller. The foregoing warranty is not applicable to: (i) accessories and components not manufactured by Seller, which are warranted only to extent, if any, of the manufacturer's warranty for such accessories and components (but the warranty term for any such warranty shall be the expiration date of such warranty, or one year from date of shipment, whichever is the first to occur), or (ii) damages caused by shipping. Seller shall be responsible for freight charges for replacement parts only if shipped within the continental United States or Canada.

The foregoing warranty is exclusive and in lieu of all other express and implied warranties (except of title) including but not limited to implied warranties of merchantability, fitness for a particular purpose, performance, or otherwise. All other warranties are expressly disclaimed. Buyer agrees that in no event shall the Seller be liable for claims (based upon breach of express or implied warranty, negligence, product liability, or otherwise) for any other damages, whether direct, indirect, immediate, incidental, foreseeable, consequential, special or based on any other claim.